

# STEM Community Challenges



## Barker Middle School is Making it Happen!



**WE ARE** Michigan City Area School Corporation, 408 S Carroll Ave, Michigan City, IN 46360 has 5,757 students and is an urban school district. Barker Middle School, 319 Barker Road, Michigan City, IN 46360 has 392 students.

**OUR STUDENTS & FAMILIES** Enrollment by Ethnicity: 54.3% white, 30.5% black, 8.1% Hispanic, 6.4% multiracial, .4% American Indian, and .2% Asian. Enrollment Free and Reduced Meals: Free 58.9%, Reduced 7%, and Paid 34.1%.

**OUR TEACHERS** Teachers involved in the program have had STEM Planning/Training, Google Classroom Training, "Best Practice" Training. Teachers infuse 21<sup>st</sup> Century Skills involving STEM. Students compete against community partners.

**OUR PROMISING PRACTICE** Barker has quarterly homeroom STEM Challenges, three of which are STEM Community Challenges where we challenge incoming 6<sup>th</sup> grade students, businesses, and community groups to compete against our 7<sup>th</sup> and 8<sup>th</sup> grade students. This is our 3<sup>rd</sup> year implementing these challenges to infuse STEM concepts in a FUN way!! Our challenge topics are on a two-year rotating schedule, with the last challenge of the year blow out "Water Bottle Rocket" competition. For each challenge, preliminary rounds are held. Elementary school 6<sup>th</sup> graders participate in preliminary rounds at their school. The winning 6<sup>th</sup> grade team and the top 6 Barker Homerooms take on local businesses and community groups in each challenge. This connects students with our community members and also lets our incoming students know the exciting STEM events they will participate in when they get to middle school. Many students also work with their parents at home on their prototype designs for the different challenges! These are Problem-Based Learning STEM challenges that connect students to the real world and invoke a sense of friendly competition to excite students in STEM!

**OUR STEPS** The homeroom STEM Challenges are held quarterly with preliminary and finale rounds per competition. This has become our culture at Barker of design challenges. All students are involved including elementary students and local businesses and community groups with our Curriculum Coach leading the events. The year-end finale is "Water Bottle Rocket" challenge.

**IN OUR OWN WORDS** "Mrs. Hamann ran Preliminary Rounds at our school 3 times last year and our winning 6<sup>th</sup> grade team took on the 7<sup>th</sup> and 8<sup>th</sup> graders at Barker. We really had a great time and my dad helped me with my water bottle rocket!" –Riley Steinhiser, 7<sup>th</sup> grade student  
"Thank you for letting us participate. It is really encouraging to see a demonstration of what you are doing for those students, above and beyond just a text book education. (and to have such a great connection!) I know your hard work and preparation will pay off for you and your students. I hope the Barker Students realize what a blessing it is to have such a great influence. Keep up the great work. Congratulations to you, your school, and your staff, for such a well representation before the community. That was awesome!" --Tim Young, Materials Manager, KTR Corporation, Michigan City, IN

If you have questions, please contact Amy Hamann: [ahamann@mcas.k12.in.us](mailto:ahamann@mcas.k12.in.us)  
Barker Middle School Website: <http://www.mcas.k12.in.us/site/default.aspx?DomainID=17>